NOVEMBER/DECEMBER 2023

CBT51 — GENETIC ENGINEERING

Time : Three hours Maximum : 75 marks

LIBRARY

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define genetic engineering.
2. List the functions of alkaline phosphates.
3. What is expression vector?
4. What are cosmids?
5. Define PCR.
6. Infer the role of Tag polymerase in rDNA technology.
7. Explain the term barcoding.
8. Summarize the about COx.
9. Define gene library.
10. Show any two proteins that can be produced through rDNA technology.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain briefly about types of DNA polymerase and its functions.

Or

(b) Discuss the sources and functions of reverse trancriptase.

12. (a) Explain the construction of PUC vector.

Or

(b) Examine the structure of Ti plasmid with a neat labelled diagram.

13. (a) List the applications of PCR.

Or

(b) Analyze the principle and procedure applied in PCR.

14. (a) Identify and explain any two mitochondrial markers.

Or

(b) Examine briefly about RAPD and its applications.

15. (a) List out the applications of DNA finger printing.

Or

(b) Simplify the production of recombinant growth hormone.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss about enzymes involved in gene manipulation.

17. Elaborate the characteristics of plasmids and explain pBR322.

18. Classify the various types of PCR and its general applications.

19. Explain the procedure involved in Maxam-Gilbert method of DNA Sequencing.

20. Discuss the principle and procedure of DNA finger printing.

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